

What is claimed is:

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1. A RAID apparatus comprising:  
a plurality of physical disk units for forming same  
logical volumes; and  
a disk controller for accessing any physical disk  
unit which forms a designated logical volume to thereby  
access said designated logical volume,  
said disk controller including a memory for storing a  
number of operations, requested to each physical disk  
10 unit, for each physical disk unit, and  
control means for accessing one of said plurality of  
physical disk units which form the designed logical  
volume, in accordance with said number of operations.

15 2. The RAID apparatus according to claim 1, wherein  
said control means compares said numbers of operations of  
a plurality of physical disk units which form said  
designated logical volumes with each other, and selects  
that physical disk unit which has a minimum number of  
20 operations.

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3. The RAID apparatus according to claim 1, wherein  
said control means includes:

25 a channel adapter circuit for performing interface  
control with a high-rank apparatus;  
a device adapter circuit for accessing said physical  
disk units in accordance with a requested operation; and



said resource manager circuit refers to said memory to select a physical disk unit on which said logical volume is allocated.

5           7. An access control method for a RAID apparatus comprising a plurality of physical disk units for forming same logical volumes, and a disk controller for accessing any physical disk unit which forms a designated logical volume to thereby access said designated logical volume,  
10 said method comprising the steps of:

          determining a plurality of physical disk units which form a designed logical volume; and

          selecting one of said determined physical disk units in accordance with a number of operations requested to  
15 said physical disk units.

          8. The access control method according to claim 7, wherein said selecting step compares said numbers of operations of a plurality of physical disk units which  
20 form said designated logical volumes with each other, and accesses that physical disk unit which has a minimum number of operations.

*Sub*  
*ap*  
25           9. The access control method according to claim 7, wherein said determining step determines said plurality of physical disk units in response to a transfer request from a high-rank apparatus; and

said selecting step includes a step of requesting an operation for accessing said physical disk unit determined in accordance with said number of operations and a step of accessing said physical disk unit in accordance with said requested operation.

10. The access control method according to claim 9,  
further comprising the steps of:

incrementing a number of operations of said deter-  
10 mined physical disk unit, stored in a memory, in accor-  
dance with a request on said operation; and

decrementing a number of operations of a physical disk unit whose operation has been completed, in accordance with an end of said operation of said physical disk unit.

11. The access control method according to claim 7,  
wherein said selecting step includes:

20 a step of referring to status information to deter-  
mine indicative of statuses of said physical disk units,  
stored in a memory, to determine whether those physical  
disk units which form said designated logical volume are  
normal; and

a step of selecting a normal physical disk unit.

12. The access control method according to claim 7,  
wherein said determining step refers to information of a

plurality of physical disk units which form said logical volume, stored in a memory, to determine physical disk units forming said logical volume.

add a<sup>5</sup>

add B<sup>6</sup>

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